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THE MORAL ASPECTS OF VIVISECTION.

THE very word is sharp. It is smooth and highly polished, with a keen, cutting edge. It tells of a helpless, suffering creature under the steady hand of a pitiless dissector. The skin is flayed away, the quivering flesh carved off, the nerve trunk pierced with needles, the bare bone sawed asunder. The cries of bitter agony are unheard by the stern operator; the resisting struggles have been foreseen and forestalled. The ghastly work goes steadily on, until, after a while, a long, long while, the silver cord is loosed and the golden bowl broken, and then at last all is silent and still. I hate cruelty. It fills me with horror and disgust. It tramples on the divinest instincts —

My dear madam, if you please, stop a moment. This is very shocking, and your seething indignation is natural and truly amiable; but as there is just now no dripping knife, or smeared table, or writhing victim actually before your eyes, or screams of pain actually piercing your delicate ears, let us be calm, let us think a little. You hate cruelty. So do I. You hate it hotly. I hate it with a hate so cold and deadly that its vent might prove cruel. But we must not let our feelings judge. A vast surplus of feeling has been expended on this matter, and many bitter things have been said and written. Rather, let us quietly take our seat on the bench, and summon vivisection to the bar. Do not join in denouncing this "cruelty of cruelties" until you see clearly your ground. Before you undertake to strike a reptile, be sure that it is a reptile, and then that you hit it so hard that it cannot strike back, else you may have cause for regret.

When we who are outside the laboratories try to ascertain just what this vivisection is, we meet with some difficulties. Its practitioners and advocates describe it as an important method of physiological research by the dissection of living animals. It

seems that practical physiology has four branches,—the histological, chemical, physical, and vital,—and that vivisections occur only in the latter department. Even here they form but a very small part of the experiments, for much the larger number involve neither cutting nor pain. In cases that would otherwise involve pain, chloroform is usually given, and the animal is killed before it recovers from the anæsthetic. It is evident, then, that the term vivisection has a much narrower meaning than practical or experimental physiology, and is properly applicable only to special cases that are comparatively few.

But when we examine the reports in the medical journals—for instance, in “The Lancet”*—we find that painful experiments are not at all infrequent. The opponents of the practice collect the telling cases, and describe them as sawing across the backbone, dissecting and irritating the great nerves, driving catheters along the veins and arteries, inoculating with dreadful diseases, cutting out parts of the intestines, stewing and baking in a stove, pouring boiling water into the stomach, boiling or freezing to death, and by mechanical processes reducing the brain to the condition of “a newly plowed potato-field.” Moreover, they point out that an eminent authority disapproves of the use of anæsthetics, as “an experiment is much more satisfactory when the animal exhibits signs of pain.” Often the animal is not left even normally sensitive, but raised to a frightful condition of morbid sensitiveness by the motor-nerve paralyzer, but sensory-nerve excitant, called *curari*. This drug is administered to “keep the animal quiet” under the operation. Claude Bernard, the prince of physiologists, describing one of his experiments, says: “A dog was first rendered helpless (by *curari*) and incapable of any movement, even of breathing, which function was performed by a machine blowing through a hole cut in its windpipe; but its intelligence, its sensitiveness, and its will remained intact, a condition which, under the opera-

* See, for instance, the number for September 17, 1881, giving an account of some experiments of M. Richet in electrical tetanus. The article says: “If the animal is kept cool by artificial means, it may bear for more than two hours extremely strong currents, which cause severe tetanus (lock-jaw), without dying for some days.” See, also, the “British Medical Journal” for May 5, 1877, December 14, 1878, and June 11, 1881; and the “Journal of Physiology” for January, 1882. There are said to be about thirty physiological laboratories in Europe and Great Britain.

tion, was accompanied by the most atrocious sufferings that the imagination of man can conceive.”*

As to the number of animals dissected alive, we learn that M. Paul Bert describes a series of experiments up to No. 286; that Schiff is calculated to have used 14,000 dogs and about 50,000 other animals during his ten years' work at Florence; that Flourens told Blatin that Magendie had used 4000 dogs to prove Sir Charles Bell's theory of the motor and sensory functions of the nerves, and then 4000 more to disprove it; and that he (Flourens) had proved Bell was right by sacrificing 1000 more. This is enough. It is needless to repeat the oft-told tale of horrors contained in the works of Claud Bernard (to whom the English physiologists proposed in 1878 to erect a statue), of Paul Bert, Brown-Séquard, and Richet in France, of Goltz in Germany, of Mantegazza in Italy, and of Flint in America. The British physiologists are accused of like atrocities, and we are told that a glance at their record “makes the soul sick as with a whiff and an after-taste from a moral sewer.”†

At the meeting of the British Medical Association at Norwich, in 1874, M. Magnan, a French physiologist of high repute, exhibited some experiments on live dogs. The Royal Society for the Prevention of Cruelty to Animals prosecuted the assistants of M. Magnan. The magistrates dismissed the case as not coming under the Cruelty Act, but agreed that the experiments were nevertheless cruel and useless.‡ Public opinion was deeply moved, and parliamentary inquiry demanded, which resulted, in 1875, in the appointment of a royal commission of forty-five members. Many eminent medical men were examined as experts,

* See his article in the “Revue des Deux Mondes” for September 1, 1864. The following indicates the extent of this practice: “Curari is now employed in a vast number of experiments as a means of restraining the animals. There are but few observations the narrative of which does not begin by stating that they were made on a curarized dog.” (*Leçons de Physiologie Opératoire*, p. 168.)

† See especially a strong article by Miss Cobbe in the “Contemporary Review” for April, 1882. Any one who wishes to sup full of horrors is referred also to “Vivisection (in three) Prize Essays” (London, 1881), to M. Scholl's “Ayez Pitié,” and to M. von Weber's “Folkerkammer der Wissenschaft.”

‡ The Academy of Sciences at Paris, at the annual meeting, after the Norwich trial, testified its approval of M. Magnan's researches by awarding him a prize of 2500 francs.

and many opponents of the practice. The "Report," covering 388 pages of the Blue-Book, was made in 1876, and Parliament thereupon passed the Vivisection Act, prohibiting experiments on living animals except under stringent regulations. It seems that the English physiologists acquiesced in the law, or at least strictly conformed to it, and that public agitation subsided.

In the midst of this stir, the Victoria street Anti-vivisection Society was started, with Lord Shaftesbury as president, and Lord Chief Justice Coleridge, Cardinal Manning, Lord Mount Temple, and the Bishop of Winchester as vice-presidents. At first the society asked only for a restrictive law; but, when this was obtained, it was not satisfied, and proceeded to demand absolute prohibition. In May, 1881, its organ appeared, the "Zoöphilist," which recounted its reasons as follows:

"1st. Because vivisection is the most cruel of cruelties, and the laboratories where it is practiced are places where torture is not an accident but a business. 2d. Because, while other cruelties are dying out before the advance of civilization, vivisection is becoming a new vice. 3d. Because it not only involves most pain to brutes, but is most demoralizing to men, because most conscious and deliberate. 4th. Because the Society is convinced it is scientifically worthless, a misleading method of physiological research."

The manifesto concludes:

"Not on this last issue, however, the worthlessness of vivisection, do we for a moment consent to rest our cause. A practice inseparable from the great offense of cruelty does not become lawful, even should it chance to prove useful. . . . We repudiate the whole rotten system of morality to which such arguments belong, and maintain that if the gain to science and the healing arts to be obtained by vivisection were as real and substantial as it is vain and visionary, it would fail to justify the infliction of torments on brutes, or the degradation of men into tormentors."

In August, 1881, the International Medical Congress met in London, numbering three thousand members, by far the largest and most widely representative assembly of medical men the world has ever seen. During the session, vivisection was much discussed. The famous Professor Virchow took it as the subject of his address at St. James's Hall, declaring that none of those who attacked vivisection as an aid to science have any conception of the true importance of science, or of the value of this means of acquiring knowledge. The English restrictive law was generally condemned by the Congress, and on August 9 the following resolution was unanimously passed:

"Resolved, That this Congress records its conviction that experiments on living animals have proved of the utmost service to medicine in the past, and are indispensable to its future progress. That, accordingly, while strongly deprecating the infliction of unnecessary pain, it is of opinion, alike in the interest of men and of animals, that it is not desirable to restrict competent persons in the performance of such experiments."

Two days afterward the British Medical Association, at a special and crowded meeting, with only one dissenting voice, approved this resolution.*

The resolution acted like a red rag. John Bull went mad. Everywhere, and by everybody, the subject was fiercely discussed. It became once more, and more than ever, a burning question. Professor Ferrier was prosecuted. The zoöphilists vowed their determination to force through Parliament a prohibitory act. Placards with hideous pictures of the great abomination were posted at all crossways; pamphlets fell like fire-flakes; the newspapers teemed with vindictive paragraphs; and the heavier metal of the monthly reviews resounded throughout the United Kingdom. The physiologists defended themselves generally with dignity, if not with efficiency. While the medical faculty in general sided with them, they were assailed on every hand by bishops and clergy, lawyers and politicians, novelists and penny-a-liners, officers of both army and navy, jockeys and spinsters, lords, ladies, and laymen generally, and finally (*et tu, Brute!*), the Dublin College of Physicians. The clamor was loud and long, reminding us of our antislavery times. Gradually, however, it abated; the agitators seemed at last to be weary of it, and unwilling to pay the price, "eternal agitation."

The sword-play which the literary remains of this contest exhibit is certainly very entertaining, but not at all decisive. Like the ghostly heroes of Walhalla, the combatants hew one another into pieces, only in a twinkling to be reunited and again engaged in the bloodless encounter. While the battle was raging, our partisan feelings were enlisted, but now that it has subsided, we may, in the interval of comparative quiet, calmly

* In the opening address, Professor Humphrey said: "Almost every advance in our knowledge of the human body has been made through vivisection." During the Congress, a statue of Harvey was unveiled at Folkestone, August 6, and the address on that occasion, by the venerable Professor Owen, warmly advocated vivisection.

examine the question, it being one on which every thinking man desires to have a clearly correct and fixed opinion. Happily it has not been generally agitated among us, nor is it desirable that it should be; and therefore we avoid home cases, and look abroad for facts. But a reasonable consideration of the subject is desirable, in order that a healthful public opinion may be formed, one that may save us from being caught unawares by agitators, and plunged, perhaps, into unwise legislation.

At the outset it is needful to clear away some misapprehensions. It would seem superfluous to point out that the question before us is not one of physiological science, were it not that many scientists claim that it belongs solely to their own exclusive domain, and is to be judged of only by experts. The unscientific world is haughtily forbidden to have an opinion in the matter, except so far as they adopt that of their betters, much less to promulgate one, still less to legislate thereon.* This is a queer confusion of thought; for evidently, while the question concerns scientific matter and the practice of scientific men, it is nevertheless wholly, strictly, and exclusively ethical. It is merely a question of right and wrong, simply this: Is it right to perform painful experiments on animals? In deciding this question, it is clear that we must look to the physiologist alone for the facts, believing they will be given without retrenchment or distortion. We expect from him such as are fairly representative, and must not allow a partisan opponent to fright us with an assorted string of horrors worked up with blood-curdling rhetoric. We must rely exclusively upon the physiologist for an estimate of the proportion of pain-giving experiments,

* Here is a deliverance of a professor in the Paris School of Medicine, furnished by one of his pupils: "The true ground of our vindication is that if once we permit moralists and clerics to dictate limitations to science, we yield our fortress into their hands. By and by, when the rest of the world has risen to the intellectual level of France, and true views of the nature of existence are held by the bulk of mankind, now under clerical direction, the present crude and vulgar notions regarding morality, religion, divine providence, deity, the soul, and so forth, will be swept entirely away, and the dicta of science will remain the sole guide for sane and educated men. We ought, therefore, to repel most jealousy and energetically all attempts to interfere with the absolute right of science to pursue her own ends in her own way, uninterrupted by churchmen and moral philosophers, forasmuch as these represent the old and dying world, and we, the men of science, represent the new."

and of the degrees of pain involved, so far as these points may concern the question. We must accept without demur his judgment of the importance of this method of investigation, to general science and to the medical arts, both retrospectively and prospectively; for he alone can judge of the true relation of what he knows to what he hopes to know, this judgment being a sort of trained instinct of whose process no account can be required. Medicine is still in its cradle; but it has already strangled some serpents, and it is reasonable to expect a herculean growth. So, when we hear such savants as Pasteur and Virchow, Owen and Huxley, Humphrey and Foster, Simon and Fraser, Paget and Carpenter, unitedly affirming that "the remarkable advance in medical science and art during the past twenty years is due to experiments on the lower animals," we give no heed at all to the dogma of Cardinal Manning, that "it is a detestable practice, not attended with scientific results," or to the opinion of Chief Justice Coleridge, that "the practice is displeasing to Almighty God." In this case we will take counsel, not of the priest, nor of the Levite, but of the good Samaritan.

With the facts and their estimated value thus laid before us, we may proceed to consider the questions: Is it right? Shall it be allowed? The first is a question of ethics, of casuistry, a pure case of conscience. The second is a question of social order. It is absurd for scientists to forbid us common folk to judge and determine these points. It is absurd for them to warn us off this ground; for here we are upon our own ground, and will surely hold it. We might fairly retort, that if experts alone are to be heard, then those alone competent in this case are not at all the experts in physical science, but the experts in ethical science, and the experts in political science; those who have made a special study of rights and duties, and those who have studied the best means of enforcing them. As the question before us is not physiological, but ethical, so, on the other hand, it is, though ethical, not at all sentimental. It is a very common and a very great error to consider ethical questions to be questions of sentiment, and I know of no more notable case than the present. The horrors of vivisection are emphasized by the zoöphilists as decisive. Our sympathy with our suffering fellow-creatures is aroused, our pity is painfully stirred by highly wrought descriptions of frightful tortures, and then, with an appeal to our humanity and piety, we are asked if these

things are not an outrage upon the best impulses of our nature, and an offense to the loving God who made us all.

Let it be distinctly understood that questions of morals are not to be settled in this way. We cannot decide the right or wrong of vivisection by the abhorrence it naturally excites. The butcher's trade is revolting, but we pay him well. We shudder and turn sick when we pass by the anatomical dissecting-room, but it is now licensed. The physiological laboratory is perhaps questionable, but the horrorized sentimentalists must stand aside if they will not listen to reason. That the sight of agony is shocking, that cries of pain are distressing, that we look with abhorrence on the shedding of blood, and turn with loathing and disgust from torture, are all according to natural order, and in their place have excellent working as impulses to relief. But these feelings should be controlled until judgment is rendered. Primarily they excite attention, subsequently they impel to action, but, unless suspended meantime, they becloud and embarrass investigation. It cannot be too strongly said that feeling is no guide for judgment, and especially that it cannot settle for us important questions of right and wrong, of justice and injustice, of humanity and cruelty. Questions of morals require calm, cold reasoning on clearly recognized and admitted principles. In the light of these, conduct that seems detestable should be examined, and its moral quality determined, with no more feeling than what is needful to press the search. So, in the present inquiry, we must suppress the sentiment that hinders and obscures it, in order to judge freely and truly. Let us, then, be as heartless as Magendie himself in dissecting this throbbing subject.

Can the right or wrong of vivisection be determined by the principles of the utilitarian ethics? The utilitarian scheme maintains that whatever conduct tends to promote the happiness of mankind, to add to the sum of pleasures or diminish pains, to increase the enjoyment of life, is, from that cause alone, righteous conduct. Nothing is right or wrong in itself apart from its consequences; it is only so because of its consequences. It is not that the consequences throw light upon the moral quality, but that they determine it. Expediency does not merely prove justice, it makes justice. Actions having beneficial results are right by virtue of the results; actions that do harm are wrong, simply because they do harm. Evidently we

have here the confusion that a remote effect is the direct cause of a quality in its cause; but we pass that.

When we attempt to apply the principles of this scheme to the question of vivisection, we encounter at once, in an aggravated form, what may be called its characteristic difficulty, the weighing of pleasures and pains. Obviously, if we regard the welfare of man exclusively, the opinion of the savants that vivisection is advantageous determines that it is right, unless the physical benefits be counterpoised by demoralization. We grant that any actual demoralization would turn the scale; but while the physical advantage is a fact, the demoralization is only a dream, or at best a prophecy. It is generally admitted, however, that we should take into consideration the pains of the brutes. But what measure have we of pain, and especially of brute pain? What is its unit? Are the light sufferings of many to be accounted equal to the intense suffering of one? Moreover, supposing the quantity of pain in a given case of brute suffering were justly measured and found equal to the quantity in a given case of human suffering, are these equal quantities to be accounted of equal value? If not, what ratio subsists between them? These are hard and perhaps unanswerable questions. But, until they be answered, how can we decide the right or wrong of vivisection on the principle of utility? It is complained that the amount of suffering inflicted is out of all proportion to the benefits accruing to mankind, but this so-called disproportion has clearly many elements of uncertainty.* Other difficulties arise on a little considera-

* Dr. Gerald Yeo, F. R. C. S., Professor of Physiology in King's College, London, in defending vivisection as practiced in England, attempts an estimate, as follows: "We thus learn from the reports that in one hundred vivisections we should find the following numbers, arranged to show the amount of pain inflicted:

Absolutely painless	75
As painful as vaccination.....	20
As painful as the healing of a wound.....	4
As painful as a surgical operation.....	1

Pain forms, then, but a rare incident in the work of a practical physiologist in England; and when it is necessary that any be inflicted, every precaution is used to reduce it to a minimum." ("Fortnightly Review," March, 1882.) But we have the authority of Sir James Paget for saying that the sensibility to pain among men is as various as the "ear for music"; and M. Charles Richet says: "Il n'y a de douleur que s'il y a conscience et réflexion

tion. It is evident that the utilitarian scheme of morals assimilates the principle that the end justifies the means, or rather that it sanctifies the means, at least whenever the good attained is greater than the injury through which it is reached. If the greater good that may come of it makes it right to dissect living animals, would not also the greater good that may come of it make it right to dissect living men? Compulsory vaccination is very near to human vivisection. The experiments of Heinrich and Dworzak on themselves, under the direction of Professor Schroff, and the test of the ordeal poison of Calabar, by the late Sir Robert Christison, which nearly cost him his life, are something nearer. And now, to the consternation of *La Ligue Anti-vivisectionniste* of Paris (of which M. Clovis-Hughes is an active and eloquent member), Madame Astié de Valsayre offers herself to M. Pasteur as the subject of any experiments he may choose to perform in *rabies*. Why not? If such acts are allowable, what good reason had Celsus for denouncing as atrocious the vivisection of Roman slaves, and the experiments on condemned felons at Alexandria? In the interest of science we give the bodies of executed criminals to the anatomists; why not, before execution, hand them over to the physiologists? Professor Ferrier, who has been obliged to content himself with monkeys, would surely be glad to dissect a series of living human brains. The utility to science and medical art would be inestimable, and we should have the additional utility of increasing the terrors of the law. Then, why not? I believe the utilitarian has no answer.

Again, by the principle of utility a present act must look to the future for its moral quality. But who knows the future? We need to know what is right beforehand; afterward comes too late. The theorist says that murder and theft are wrong, and healing and honesty right, because of their effects, and we know these by the experience of ages. But concerning vivisection we have no experience of ages, but only the doubtful experience, perhaps, of a single age. Grant that great benefits

sur cette douleur. Plus on est intelligent, plus on peut souffrir. Les animaux inintelligents sont incapable d'éprouver dans toute sa plénitude cette sensation que nous appelons la douleur. Leurs nerfs sont moins excitables, et surtout leur cerveau est moins susceptible de cette nette perception de soi sans laquelle il n'y a guère de douleur." ("Revue des Deux Mondes," February 15, 1883, p. 840.)

have resulted, this is no guarantee for the future. The mine may be exhausted. Besides, what justified the first vivisectioners? They need to have lived until now to find the answer of a good conscience. A utilitarian is unavoidably an evolutionist in morals. For him right or wrong is slowly developed in consequences, and it is impossible, without prophetic foresight, to ascertain the moral quality of a new case. He must wait on its effects.

It is very instructive to a student of ethics to observe how completely the principle of utility fails in a new case, how completely it has broken down in the present case. The English debate necessarily took an ethical turn, although few recognized and some denied the essentially ethical character of the point at issue.* Without distinct avowal, it proceeded on the low ground of utility, a principle that has infected English morals from Hobbs to Spencer. True, the "Zoöphilist" declared: "We repudiate the whole rotten system of morality to which such arguments belong," but nevertheless it went on to use them. The question mainly disputed was one of more or less pain. Mr. Colam "was engaged for some sixteen years in investigating the question of how much pain was given by physiologists." The charge of inflicting the most atrocious tortures was met in an apologetic tone by softening down the facts, by relegating the worst cases to the continental laboratories, and by diluting the remainder with mild instances. The dispute was about a comparative degree, not about a governing principle. The question was not and could not be settled thus. It still smoulders, ready to flame out again, a signal example of the practical insufficiency of the utilitarian theory.

The intuitional scheme of morals maintains that certain conduct is right or wrong in itself, regardless of consequences.

* Several articles appeared with the title, "Ethics of Vivisection," one of the ablest being that of Dr. Carpenter. Generally, the writers forgot the title, and discussed medical points. But Dr. Wilks did not forget, and, curiously enough, he concludes his article thus: "To endeavor to make vivisection a question of ethics, when moral considerations are altogether and confessedly ignored in a thousand other instances, is clearly illogical, and obviously prompted by an undue bias. In other words, the selection of the so-called standard of 'morality,' or of the 'rights of animals,' by which to measure the permissibility of psychological experimentation, is undeniably a prejudgment of the real point at issue." ("Contemporary Review," May, 1882, p. 30.)

It starts with a moral principle that is affirmed to be pure truth, immediately known to every man, and incapable of proof and not needing it. From this principle men easily and clearly infer that murder and theft are wrong, that healing and honesty are right, without considering their effects, such actions being right or wrong in their own nature. In an obscure case, a consideration of consequences may help us to ascertain the intrinsic moral quality of an action, but does not at all, as in the utilitarian scheme, constitute or objectively determine its moral quality. The moral principle is recognized also as a law, a categorical imperative, conferring obligation and commanding unconditional obedience in complete disregard of all ends. This scheme repudiates the doctrine that the end sanctifies the means in any sense in which these terms can be used. Nothing can justify murder, nothing can authorize theft. The mere intent to do either, no matter for what end, is heinous guilt. But there is a large class of actions in themselves indifferent—as giving money—that acquire moral quality from the intent with which they are done, as charity or bribery. Here the purpose, not the effect, determines the moral quality.

Without attempting to formulate the moral law in all its comprehensive generality, it is sufficient at present to point out that it recognizes in man certain inherent rights, all rights being equally sacred, though of various extent; that the notion of a right carries with it the notion of possible trespass; and that the law, in its negative form, may therefore be taken to be, *Thou shalt not trespass*. In general, it is the right and duty of every man to seek his own welfare and that of his fellows. He has a right to use any and every means not wrong in itself. In human relations, an act wrong in itself, in its own nature, is so because it involves trespass on the rights of another, and this alone is strictly forbidden. Hence, in society the rights of individuals limit one another, and therefore vary with circumstances. So far, all is clear and unquestionable. Great practical difficulties frequently arise, as all litigation shows, in fixing the exact boundaries of rights limiting one another, and in determining in complex cases what is trespass.

Passing beyond this scheme of morals, we raise the question, *Have brutes rights?* Mr. Lecky tells us in his "*History of European Morals*," that this question made its appearance for the first time during the past century. So eminent a thinker

as Dr. Hickock says: "The animal can possibly possess no rights." * If so, then the vivisectionist commits no trespass, does no wrong, has a right to pursue his experiments, and whoever hinders him commits a trespass on him and does wrong. For my part, I prefer the opposite doctrine, and agree rather with Bentham, that the brute has rights "simply because it is sentient," and that its rights are as sacredly inviolable as human rights. No man can trespass on the right of a brute without grievous wrong-doing, the more flagrant because of its helplessness. I think it needless to discuss the point. Let it be remarked, however, that the brute having rights relative to man, man has correlative duties to the brute, primarily the negative one not to trespass. On the other hand, man has rights relative to the brute, but the brute, being destitute of moral sense, has no correlative duties, and man maintains his rights simply by force. To determine the limits of the rights of man and brute is, no doubt, in many cases extremely difficult, but in general it is obvious enough that the welfare of the brute should give way to the welfare of man. Without endeavoring to discover the principle involved, it is sufficient to observe that this is universally allowed. "The animals are given for our use," said Lord Erskine, in advocating the Cruelty Act, "but not for our abuse. Their freedom and enjoyments, when these cease to be consistent with our just dominion and enjoyments, can be no part of their natural rights; but whilst they are consistent, their rights, subservient as they are, ought to be as sacred as our own." The pious, gentle, and genial Cowper is equally clear:

"The sum is this: If man's convenience, health,
Or safety interfere, his rights and claims
Are paramount, and must extinguish theirs;
Else they are all, the meanest things that are,
As free to live, and to enjoy that life,
As God was free to form them at the first,
Who, in his sovereign wisdom, made them all."

This is in strict conformity with the law of kindness: Be kind to your kind. It is quite plain that according to the common sense, piety, and practice of mankind, to sacrifice the welfare of

* "System of Moral Science," revised by President Seelye, p. 36.

the brute to the welfare of man is not wrong, for it is not a trespass on its rights, they having in that relation shrunk away.*

Let us endeavor to apply these principles specifically. We observe that the prime charge against vivisection is cruelty. The charge abounds, and no clear denial of it appears, but rather a justification and palliation, on the ground of utility. Now cruelty, in my conception of it, cannot be justified on any ground whatever; nothing can palliate or excuse it. Cruelty is essentially a trespass, a wrong in itself, a monstrous wrong, comprehending many forms of odious vice and crime. Certainly there are degrees in cruelty, from mere indifference, through wanton cruelty, up to the nameless form that finds pleasure in pain.† Still, in its mildest degree it is wholly loathsome and vile in itself, apart from its deeply demoralizing influences. But what is cruelty? The word is much used and much abused, and is sadly in need of clear and distinct definition. It implies pain. Is it cruel to give pain? No; the sur-

* In an admirable article in the "Revue des Deux Mondes" for February, 15, 1883 (already referred to), M. Charles Richet, under the title *Le Roi des Animaux*, defends his practice of vivisection. He says, in effect: The right of life and death over brutes results neither from caprice nor reasoning. It is a primordial law of nature, imposed on us before we could comprehend or even recognize it. It is an element in the general struggle for existence. "La lutte qui est perpétuellement engagée entre tous les êtres vivants, est une lutte sans merci, et nulle pitié n'est réservée au vaincu. Si, des clameurs confuses que soulève dans l'univers ce conflit sans fin, quelque cri se dégage, c'est bien le fameux cri du vieux Brennus, quand il jetait son épée dans les balances du Capitole: *Væ victis!* Malheur aux vaincus!"

† The physiologists have been accused of this devilish disposition. Truc, Mantegazza says: "These, my experiments, were conducted with much delight and extreme patience for the space of a year." M. De Cyon (in "Methodik," p. 15) says: "The true vivisector must approach a difficult vivisection with a joyful excitement. He who shrinks will never be an artist in vivisection. The true feeling has much in common with that of a sculptor." M. Renan describes Claude Bernard as standing like an august priest at the sacrifice, and so absorbed in the hallowed function of burying his long fingers in the wounds he has made as to forget the cries of his victims. This has reference to a passage in M. Bernard's "Introduction to the Study of Experimental Medicine" (p. 180), which says: "The physiologist is no ordinary man. He is a scholar, a man who is seized and entirely absorbed by a scientific idea. He does not hear the pain-wrung cries of the creatures. He is blind to the blood that flows. He has nothing before his eyes but his idea, and organisms that are hiding secrets from him which he means to discover." Surely, this is not to take pleasure in pain, but the enthusiasm of a scientific investigator. It is the pleasure of the chase, the most delightful and justifiable of all, the pursuit of knowledge.

geon is not cruel, nor is it cruel to punish. Commonly it is defined as the giving of needless or unnecessary pain; but this is negative and vague. Let us define it positively and precisely: Cruelty is pain-giving trespass. This seems simple and clear, and to contain all the essence of cruelty. It is worthy of note that it is the pain-giving element that makes it shocking, harrowing, and damnable in the sight of pitiful folk. This may come of a tender heart, but not of a tender conscience. For it is the trespass alone, not at all the pain-giving, that makes cruelty morally wrong, vicious, wicked. It is the trespass that should stir reprobation; and, indeed, unless there be trespass, there is no cruelty. If vivisection be cruel, it is wrong; nothing can justify it, and civil law should forbid it. But is it cruel? That it often gives "atrocious pain" is admitted. Beware, now, of feelings; let us be calm, and remember that it is not at all a question of pain-giving, more or less, but a question of trespass. If not a trespass, it is not wrong. If it be a trespass, it is a pain-giving trespass, that is, a cruelty and a crime. But is it a trespass? When the brute's ordinary right to welfare, including exemption from inflicted pain, confronts man's right to welfare, it shrinks to zero and disappears. We enslave, lash, emasculate, and butcher domestic animals for service and food; we ruthlessly extirpate others when they become a nuisance, and nobody's conscience revolts, for these acts are not trespasses.* Hence, if it appear that human welfare, in yet higher respects, is dependent on vivisection, then *a fortiori* it is not a trespass. Let us see.

Physiology is the science of the functions of the various organs and textures of the body in its normal state, of the healthful working of the animal economy. It is the rational basis of pathology, or the science of disease, and of therapeutics, or the art of healing. These together make up medicine. From the time of Albert von Haller, who only a century and a half ago laid the foundations of physiology, a rational view of medicine has more and more prevailed, and the scientific element is steadily gaining ground on the purely empirical. Marvelous discoveries and applications, in a continuous series, have assuaged an untold amount of human suffering and prolonged innumerable lives; and we have the almost unanimous testimony of the medical profession, the only competent witnesses, that vivisections have

* No reference is made to the field sports, hunting and fishing, because as mere sports they seem to me to be a relic of barbarism, both cruel and demoralizing, and should, were it possible, be suppressed.

largely contributed to this brilliant and beneficent progress of physiology in the near past, and that, in their opinion, further experiments are essential to its future progress. Indeed, it is evident enough that the advance and applications of every physical science depend on experimental investigation, and any purblind layman may see that, since physiology is a science of functions, the physiologist must observe and experiment on functions in play, on living actions, and that it is only when he thus knows precisely what the right actions are, that he can promptly detect any deviation from them, and rationally undertake to deal with causes of derangement. It seems, then, that the vivisection of brutes is a most important channel of human welfare.*

Moreover, man's greatest need is to know; knowledge is the very essence of his excellence, the chiefest end of his being. I do not say useful knowledge,—though, indeed, all knowledge is useful,—but pure science; for, leaving out all thought of its practical application, this of itself is in the highest degree conducive to the perfection of humanity. Man lives for the unfolding of his faculties, the full and harmonious development of his powers, the perfecting of his character. Even if we adopt the orthodox doctrine that man is for the glory of God, still it is true that only in the accomplishment of his own perfection can he as a creature manifest the glory of his Creator. Now, the practical physiologist is in pursuit of knowledge, he is seeking to add some fragment of truth to the temple of science, and so is certainly on the way to promote human welfare. If, then, knowledge be our highest welfare, and if in the pursuit of knowledge the brute stands in the way, all its rights vanish.

The conclusion seems clear that, before such stupendous advantages to the human race, the right of the brute to exemption from inflicted pain becomes null. Hence vivisection is not a trespass, and so is not cruel and not wrong. As a merely pain-giving operation, it belongs fairly to the class of actions that are in themselves morally indifferent, and has its moral quality determined by the intent with which it is done.

* “What has Vivisection done for Humanity?” is the title of an article in the “British Medical Journal,” for January, 1875, by Dr. J. G. McKendrick, Lecturer on Physiology at Edinburgh. It cites twenty-two discoveries of the highest scientific and practical value as due to vivisection. But the list is far from exhaustive. It omits, for example, Magendie's method of hypodermic injection, and the important fact that nearly all the most valuable new remedies added to the pharmacopœia since 1864, among which are the anæsthetics, chloral-hydrate, and nitrite of amyl, are due to vivisection.

Supposing always the vivisector to be a scientific investigator in pursuit of valuable knowledge, it follows that his conduct is righteous. Sound logic leads us further. Whatever is right is duty. It is not merely the privilege of the physiologist to practice vivisection, it is a duty that he owes to society. Having accepted or assumed the burden of his important vocation, he is under obligation to do everything in his power for the increase of human knowledge, the prolongation of human life, and the mitigation of human suffering. He must remember "how much better is a man than a sheep," and the words, "Ye are of more value than many sparrows." If it be true that "mercy but murders, pardoning those that kill," then the tenderness that would spare the brute is cruelty to mankind. And this cuts both ways. For whoever hinders the physiologist in his duties by exciting public odium commits a trespass on him and on society at large, in whose interest he is laboring, and so does a multiplied wrong; and should this hindrance be pushed to legal oppression or prohibition, the shambles may rejoice, but the wronged hospitals will surely take up the wail of Antigone: "Neither God nor Justice sat in council at the making of those laws."

Nevertheless, restrictions need to be imposed. Even the most thoroughly justifiable vivisections are on the verge of cruelty and crime. Of this the physiologists are themselves fully aware, and voluntarily accept stringent limitations. In 1871, the British Association resolved as follows: First, that "no experiment which can be performed under the influence of an anæsthetic ought to be done without it"; second, that "no painful experiment is justifiable for the mere purpose of illustrating a law or fact already demonstrated"; and, third, that "whenever, for the purpose of new truth, it is necessary to make a painful experiment, every effort should be made to insure success, in order that the sufferings inflicted may not be wasted."* These resolutions are signed by the President of the College of Physicians, the President of the College of Surgeons, and many others, and are generally approved and observed by English physiologists. The Vivisection Act, which has been already referred to, is much more stringent. By it all experiments on living animals are prohibited, except they be performed under a license granted by the Secretary of State, and done in a registered place, with the exclusive object of making such dis-

* "Report of the British Association for the Advancement of Science," 1871, p. 144.

coveries as shall be "useful for saving or prolonging life, or alleviating suffering." Moreover, "the animal must, during the whole of the experiment, be under the influence of some anæsthetic of sufficient power to prevent its feeling pain," and be killed before it recovers. The experiments must not be used to illustrate lectures or to attain manual skill. Exemption from these restrictions, in special cases, may be granted by an authorized scientific commission; but the public exhibition of any experiment likely to cause pain is absolutely prohibited. The English physiologists complain bitterly of this Act as the product of a spirit of persecution, as oppressive and tyrannical, and as so hindrersome in its operation as to be practically preventive of their work. By it Dr. Brunton's study of cobra poison was stopped. He was seeking an antidote for the relief of the twenty thousand persons who, in India, annually die of this venom. Pasteur's inoculations for the mitigation of the cattle plague, beneficent to brutes, encouraged by the French Government, and applauded by the civilized world, could not have been performed in Great Britain. There it is permitted freely to vaccinate infants, but not rats. This, if no more, is clearly much too much; the restriction needs restriction.

It is always hard to hit exactly between too much and too little. It would seem wiser, however, to license, not the experiment, but the experimenter, and him only upon the recommendation of some recognized college of medical men, he being then left by law entirely free to work in his own way and to whatever extent he finds needful, but limited to scientific investigation. He should be left in this to his own conscience and compassion, and to the good or bad opinion of his professional peers, who alone are competent to judge his working, and whose restraining judgment he dare not disregard. The law should prohibit all public exhibition, and all mere demonstration as distinguished from investigation. Such limitations would protect animals from being dealt upon by untrained and incompetent persons, they being amenable to the laws against cruelty, and would guard the public from shocking and demoralizing spectacles. But it is impracticable now to argue these suggestions, or to enter upon detail. I am emboldened in venturing to make them by the belief that they are in accord with the views of the medical faculty, and would, if enacted, fairly satisfy all the reasonable demands of a humane public.

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